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EXAMINER	
GEBREMICHAEL, BRUK A	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/538,011	GRUND-PEDERSEN ET AL.	
	Examiner	Art Unit	
	BRUK A. GEBREMICHAEL	3715	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 September 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 June 2005* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The following office action is a **Final Office Action** in response to communications received on 09/15/2008. Claims 1, 5-6, 8, 13, 15-16, 18, 20, 22-26 and 28-30 have been amended. Thus, claims 1-30 are pending in this application.

Response to Amendment

2. Applicant's amendment to the abstract is sufficient to overcome the objection set forth in the previous office action with regard to the specification. The Examiner respectfully withdraws the objection.

Applicant's amendment to claims 22-24 and 26 is sufficient to overcome the objection set forth in the previous office action with regard to claims, 22-24 and 26-27. The Examiner respectfully withdraws the objection.

Applicant's amendment to claim 25 is sufficient to overcome the 35 U.S.C 101 rejection set forth in the previous office action regarding claim 25. The Examiner respectfully withdraws the rejection.

Applicant's amendment to claims 1, 13, 20, 24-25, and 29-30 is sufficient to overcome the 35 U.S.C 112, second paragraph rejection set forth in the previous office action with regard to claims 1-21, 24-25 and 29-30. The Examiner respectfully withdraws the rejection.

Drawings

3. The drawings are objected to because the following informalities: the reference character "26" discussed in the specification with regard to FIG 5 (Page 9, lines 8-10 of the specification) is not indicated in the drawings.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claims 20 and 28 are objected to because of the following informalities:

Regarding claim 20, the phrase "control unit **an** said interface unit" in line 3 of this claim is believed to be a typographical error for -- control unit **and** interface unit --.

Regarding claim 28, even though this claim is currently amended (lines 8-10), the claim is labeled as "previously presented". Appropriate corrections are required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- Claims 22 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase "said user" in line 10 of claim 22 renders claims 22 and 23 indefinite as there is insufficient antecedent basis for this phrase in the claims.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

- Claims 1-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson 2002/0168618 in view of Alexander 6,929,481.

Regarding claim 1, Anderson discloses the following claimed limitations, an interventional procedure simulation system, comprising a control unit and an interface unit (FIG 4), said control unit communicating with said interface unit to simulate handling of a number of real nested instruments simultaneously interfaced by said interface unit (Para.0018) and, said instruments being arranged to move and rotated independently of each other and said movements and rotations being propagated to the other instruments (Para.0018 and Para.0035), said control unit further comprising an instruction set comprising a first instruction set for handling and processing an input

from a user based on said input, generating a second instruction set for controlling said interface (Para.0125, lines 7-14), a first data set comprising characteristics for said instruments (Para.0084, lines 10-16 and Para.0125, lines 17-19), a second data set comprising data on a body part to be simulated (Para.0033, lines 1-6 and Para.0124, lines 5-9), a third instruction set for generating control signals relating to an interaction between said simulated instruments and a surrounding geometry relating to a part of said simulated body part (Para.0125, lines 19-21).

Anderson does not explicitly disclose, a fourth instruction set for controlling movements of a number of serially arranged and interconnected carriages corresponding to movements of said instruments in said interface unit.

However, Alexander teaches, a fourth instruction set for controlling movements of a number of serially arranged and interconnected carriages corresponding to movements of said instruments in said interface unit (col.22, lines 5-18 and FIG 16).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of this invention was made to modify the invention of Anderson in view of Alexander by incorporating a plurality of carriage assemblies in order to manipulate and control several nested instruments, such as wire, catheter and sheath assembly so that the user would learn the proper procedural steps to carry out a given medical procedure.

Anderson in view of Alexander teaches the claimed limitations as discussed above. Anderson further discloses,

Regarding claim 2, said interventional procedure is at least one of a diagnostic, a cardiovascular or endovascular simulation system (see Abstract lines 5-8 and Para.0012, lines 1-4),

Regarding claim 3, a user's movements of said instruments, a surrounding simulated anatomy and other present instruments, affect a shape of an instrument simulated and displayed (Para.0020 and Para.0149, lines 6-12),

Regarding claim 4, each instrument collisions with simulated surrounding calculations are executed by said control unit, which affects the shape and position of said instrument in said simulated body part (Para.0205 and Para.0206, lines 1-8),

Regarding claim 5, wherein an instrument is a distal part of a tool or an end of a tool (Para.0036, lines 1-10),

Regarding claim 6, wherein different instrument types can be used comprising at least one of balloons, stems, electrodes, wires, catheters, and distal protection(see Para.0018, lines 3-8),

Regarding claim 7, wherein each instrument type has different properties associated to it and provided as an instruction set, which describes substantially all properties of said instrument (Para.0084, lines 10-16 and Para.0157, lines 1-9),

Regarding claims 8 and 9, the properties of said instruments further describe interaction with at least one of surrounding geometry, visual properties, stiffness, and shape; and wherein simulated properties of said instrument are altered in real-time (Para.0034, lines 3-13),

Regarding claim 10, the system comprises a model used for rendering objects depending on properties to be displayed and a collision model for computing collisions between the simulated instrument and body part (Para.0200 and Para.0205),

Regarding claim 11, a model of said body or part of said body part is a three-dimensional data obtained through a body scanning (Para.0021, lines 1-3 and Para.0128, lines 1-4),

Regarding claim 12, the instrument movements and rotations interact simulated with other instruments (Para.0035 and Para.0157, lines 9-13),

Regarding claim 13, a method for simulating an interventional procedure (Para.0032, lines 1-8), comprising the steps of providing a control unit and an interface unit (FIG 4), said control unit communicating with said interface unit to simulate handling of a number of nested real instruments simultaneously interfaced by said interface unit (Para.0018) and that each nested tool can be moved and rotated independently of the other and said movements and rotations are propagated to other instruments (Para.0035), providing a first instruction set for handling and processing input from a user, generating a second instruction set based on said input, for controlling said interface (Para.0125, lines 7-14), retrieving information on said instrument comprising a first data set comprising characteristics for said instruments (Para.0084, lines 10-16 and Para.0156), providing a second data set comprising data on a body part to be simulated (Para.0033, lines 1-6, and Para.0124, lines 5-9), and generating control signals relating to interaction between said instrument and a surrounding geometry by a third instruction set (Para.0034, lines 3-10 and Para.0125, lines 19-21).

Anderson does not explicitly disclose, controlling movements of a number of serially arranged and interconnected carriages corresponding to movements of said instruments in said interface unit.

However, Alexander teaches, controlling movements of a number of serially arranged and interconnected carriages corresponding to movements of said instruments in said interface unit (col.22, lines 5-18 and FIG 16).

Therefore, here also, it would have been obvious to one of ordinary skill in the art at the time of this invention was made to modify the invention of Anderson in view of Alexander by incorporating a plurality of carriage assemblies in order to manipulate and control several nested instruments, such as wire, catheter and sheath assembly so that the user would learn the proper procedural steps to carry out a given medical procedure.

Anderson in view of Alexander teaches the claimed limitations as discussed above. Anderson further discloses,

Regarding claim 14, changing instrument simulated and displayed based on a user's movements of said instruments, a surrounding simulated anatomy and other present instruments, effect a shape of an instrument simulated and displayed (Para.0020, lines 7-16 and Para.0034, lines 3-13),

Regarding claim 15, wherein an instrument is a distal part of a tool or an end of a tool (Para.0036, lines 1-10),

Regarding claim 16, wherein different instrument types can be used comprising at least one of balloons, stents, electrodes, wires catheters, and distal protection (see Para.0018, lines 3-8),

Regarding claim 17, wherein each instrument type has different properties associated to it and provided as an instruction set, which describes substantially all properties of said instrument (Para.0084, lines 10-16 and Para.0157, lines 1-9),

Regarding claim 18, wherein the properties of said instruments further describe interaction with at least one of surrounding geometry, visual properties, stiffness, and shape etc (Para.0035 and Para.0157, lines 9-13),

Regarding claim 19, wherein simulated properties of said instruments are altered in real-time (Para.0020, lines 7-14 and Para.0036, lines 6-16),

Regarding claim 20, a system for an interventional procedure simulation, said system comprising a control unit and an interface unit (FIG 4), the system further comprising means for communication between said control unit an said interface unit means in said interface unit simultaneously simulate handling of a number of nested instruments interface by said interface unit, each said instruments being, independently movable (Para.0018; Para.0035 and Para.0157, lines 9-12), interface member for receiving input from a user, means for handling and processing said input (Para.0020, lines 7-14), means for controlling said interface (Para.0022, lines 1-9), a first database for storing characteristics for said instruments (Para.0084, lines 10-16 and also Para.0125, lines 17-19), second database for storing characteristics about a body part to be simulated (Para.0033, lines 1-6 and Para.0124, lines 5-10), and means for

generating control signals relating to an interaction between said simulated instruments and a surrounding geometry relating to a part of said simulated body part (Para.0034, lines 3-10 and Para.0125, lines 19-21).

Anderson does not explicitly disclose, means for controlling movements of a number of serially arranged and interconnected carriages corresponding to movements of said instruments in said interface device.

However, Alexander teaches, means for controlling movements of a number of serially arranged and interconnected carriages corresponding to movements of said instruments in said interface device (see col.22, lines 5-18 ad FIG 16).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of this invention was made to modify the invention of Anderson in view of Alexander by incorporating a plurality of carriage assemblies in order to manipulate and control several nested instruments, such as wire, catheter and sheath assembly so that the user would learn the proper procedural steps to carry out a given medical procedure.

Anderson in view of Alexander teaches the claimed limitations as discussed above. Anderson further discloses,

Regarding claim 21, wherein said characteristics about a body part to be simulated are obtained through a scanning process (Para.0021, lines 1-3 and Para.0128, lines 1-4),

Regarding claim 22, a computer program for interventional procedure simulation in a system comprising a control unit and an interface unit (FIG 4), said program

comprising communication instruction set for communication between said control unit a and said interface unit (see Para.0114, lines 1-6 and FIG 3), a first instruction set for simulating handling of a number of simulated nested instruments, independently movable and rotatable, simultaneously interfaced by said interface unit (Para.0018 and Para.0035), said control unit further comprising an instruction set comprising a second instruction set for handling and processing input from said user, a third instruction set for controlling said interface (Para.0125, lines 7-14), a first data set comprising characteristics for said instruments (Para.0084, lines 10-16 and Para.0156), a second data set comprising data on a body part to be simulated (Para.0033, lines 1-6 and Para.0124, lines 5-9), a fourth instruction set for generating control signals relating to an interaction between said simulated nested instruments and a surrounding geometry relating to a part of said simulated body part (Para.0125, lines 19-21), and a sixth instruction set for outputting simulation on a visualization member (see Para.0097, lines 4-10).

Anderson does not explicitly disclose, a fifth instruction set for controlling movements of a number of serially arranged and interconnected carriages corresponding to movements of said instruments in said interface device.

However, Alexander teaches, an instruction set for controlling movements of a number of serially arranged and interconnected carriages corresponding to movements of said instruments in said interface device (col.22, lines 5-18 and FIG 16).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of this invention was made to modify the invention of Anderson in view of

Alexander by incorporating a plurality of carriage assemblies in order to manipulate and control several nested instruments, such as wire, catheter and sheath assembly so that the user would learn the proper procedural steps to carry out a given medical procedure.

Anderson in view of Alexander teaches the claimed limitations as discussed above. Anderson further discloses,

Regarding claim 23, a program storage device readable by a machine and encoding a program of instructions for executing the computer program for interventional procedure simulation according to claim 22 (Para.0006 and Para.0125, lines 1-7).

Regarding claim 24, a computer readable medium having computer readable program code embodied therein to enable an interventional procedure simulation in a system (Para.0006 and Para.0125, lines 1-7) comprising a control unit and an interface unit (FIG 4), said program comprising a communication instruction set for communication between said control unit and said interface unit (Para.0114 and FIG 3), a first instruction set for simulating handling of a number of simulated nested instruments, independently movable and rotatable, simultaneously interfaced by said interface unit (Para.0018 and Para.0035), said control unit further comprising an instruction set, comprising a second instruction set for handling and processing input from said user, a third instruction set for controlling said interface (see Para.0125 lines 7-14), a first data set comprising characteristics for said instruments (Para.0084, lines 10-16 and Para.0156), a second data set comprising data on a body part to be

simulated (Para.0033, lines 1-6, and Para.0124, lines 5-9), a fourth instruction set for generating control signals relating to an interaction between said simulated nested instruments and a surrounding geometry relating to a part of said simulated body part (Para.0033, lines 1-6 and Para.0124, lines 5-9), and a sixth instruction set for outputting simulation on a visualization member (Para.0097, lines 4-10).

Anderson does not explicitly disclose, a fifth instruction set for controlling movements of a number of serially arranged and interconnected carriages corresponding to movements of said instruments in said interface device.

However, Alexander teaches, an instruction set for controlling movements of a number of serially arranged and interconnected carriages corresponding to movements of said instruments in said interface device (col.22, lines 5-18 and FIG 16).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of this invention was made to modify the invention of Anderson in view of Alexander by incorporating a plurality of carriage assemblies in order to manipulate and control several nested instruments, such as wire, catheter and sheath assembly so that the user would learn the proper procedural steps to carry out a given medical procedure.

Anderson in view of Alexander teaches the claimed limitations as discussed above. Anderson further discloses,

Regarding claim 25, a computer program product embodied on a computer readable medium that when executed on a computer enable an interventional procedure simulation system (Para.0006; Para.0125, lines 1-7 and FIG 4) the computer

program product comprising a digitalized communication instruction set for communication between a control unit and an interface unit (Para.0114 and FIG 3), a digitalized first instruction set for simulating handling of a number of simulated nested instruments, independently movable and rotatable, simultaneously interlaced by said interface unit (Para.0018 and Para.0035), said control unit further comprising an instruction set, comprising a digitalized second instruction set for handling and processing input from a user, a digitalized third instruction set for controlling said interface (Para.0125, lines 7-14), a digitalized first access code for accessing a first data set comprising characteristics for said instruments (Para.0084, lines 10-16 and Para.0156), a digitalized second access code for accessing a second data set comprising data on a body part to be simulated (Para.0033, lines 1-6 and Para.0124, lines 5-9), a digitalized fourth instruction set for generating control signals relating to an interaction between said simulated nested instruments and a surrounding geometry relating to a part of said simulated body part (Para.0125, lines 19-21), and a digitalized fifth instruction set for outputting simulation on a visualization member (Para.0097, lines 4-10).

Anderson does not explicitly disclose, a sixth instruction set for controlling movements of a number of serially arranged and interconnected carriages corresponding to movements of said instruments in said interface device.

However, Alexander teaches, an instruction set for controlling movements of a number of serially arranged and interconnected carriages corresponding to movements of said instruments in said interface device (col.22, lines 5-18 and FIG 16).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of this invention was made to modify the invention of Anderson in view of Alexander by incorporating a plurality of carriage assemblies in order to manipulate and control several nested instruments, such as wire, catheter and sheath assembly so that the user would learn the proper procedural steps to carry out a given medical procedure.

Regarding claim 26, a system for an interventional procedure simulation, said system comprising a control unit and an interface unit (FIG 4), the system further comprising means for communication between said control unit an said interface unit for receiving at least one instrument used in said interventional procedure (Para.0018), means for receiving three-dimensional information on a body part to be simulated (Para.0021, lines 1-3 and Para.0128, lines 1-4), and means for generating control signals relating to an interaction between said instruments and a surrounding geometry relating to a part of said simulated body part (Para.0125, lines 19-21).

Anderson does not explicitly disclose, the control signals being configured to control movements of a number of serially arranged and interconnected carriages corresponding to movements of said instruments in said interface device.

However, Alexander teaches, control signals configured to control movements of a number of serially arranged and interconnected carriages corresponding to movements of said instruments in said interface device (col.22, lines 5-18 and FIG 16).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of this invention was made to modify the invention of Anderson in view of

Alexander by incorporating a plurality of carriage assemblies in order to manipulate and control several nested instruments, such as wire, catheter and sheath assembly so that the user would learn the proper procedural steps to carry out a given medical procedure.

Anderson in view of Alexander teaches the claimed limitations as discussed above. Anderson further discloses,

Regarding claim 27, wherein said three-dimensional in formation is obtained through a scanning process (Para.0021, lines 1-3 and Para.0128, lines 1-4),

Regarding claim 28, a system for an interventional procedure simulation learning, said system comprising a control unit and an interface unit, (FIG 4) the system further comprising: means for communication between said control unit an said interface unit for receiving at least one instrument used in said interventional procedure (Para.0018), means for receiving three-dimensional information on a body part to be simulated (Para.0021, lines 1-3 and Para.0128, lines 1-4), means for generating control signals relating to an interaction between said instruments and a surrounding geometry relating to a part of said simulated body part (Para.0125, lines 19-21).

Even if Anderson does not explicitly disclose, means for recording said simulation, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to recognize the fact that the general purpose computer used in Anderson's invention (Para.0125, lines 1-6) records the simulation.

Anderson does not explicitly disclose, control signals being configured to control movements of a number of serially arranged and interconnected carriages corresponding to movements of said instruments in said interface device.

However, Alexander teaches, control signals being configured to control movements of a number of serially arranged and interconnected carriages corresponding to movements of said instruments in said interface device (col.22, lines 5-18 and FIG 16), means for recording said simulation (col.12, lines 1-20).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of this invention was made to modify the invention of Anderson in view of Alexander by incorporating a plurality of carriage assemblies in order to manipulate and control several nested instruments, such as wire, catheter and sheath assembly so that the user would learn the proper procedural steps to carry out a given medical procedure; and also by including an image capturing device in order to record and store video or still images from the simulation system regarding a given medical procedure so that the user would use this stored video for future retrieval, examination and studies.

Anderson in view of Alexander teaches the claimed limitations as discussed above. Anderson further discloses,

Regarding claim 29, a method of an interventional procedure training, using a system comprising a control unit and an interface unit (Para.0032, lines 1-4 and FIG 4) the method comprising using an interventional procedure tool to be simulated in said interface device (Para.0018) simulating an interaction between said nested instruments, independently movable and rotatable, and a surrounding geometry relating to a part of

said simulated body part, and using said simulation for training a user (Para.0018 and Para.0035),

Regarding claim 30, a method of facilitating an interventional procedure training, leasing a system comprising a control unit and an interface unit (Para.0032, lines 1-4 and FIG 4), the method comprising using an interventional procedure tool to be simulated in said interface device (Para.0018), simulating an interaction between said nested instruments, independently movable and rotatable, and a surrounding geometry relating to a pat of said simulated body part, and using said simulation for training a user (Para.0018 and Para.0035).

Response to Arguments.

7. Applicant's arguments filled on 09/15/2008 have been fully considered. In the remarks, Applicant argues that,

(1) Anderson fails to disclose an interventional procedure simulation system that includes a control unit, the control unit comprising an instruction set for controlling movements of a number of serially arranged and interconnected carriages corresponding to movements of said instruments in said interface unit, as recited in amended independent claim 1, or the similar features of independent claims 13, 20, 22, 24-26. Anderson also fails to disclose simulating an interaction between said nested instruments, independently movable and rotatable, and a surrounding geometry relating to a part of said simulated body part, as recited in claims 29 and 30. . .

. . . . Thus, there is no disclosure in Anderson of controlling movements of a number of serially arranged and interconnected carriages corresponding to movements of said instruments in said interface unit.

Moreover, although Anderson relates to computer simulation of therapeutic procedures, Anderson fails to disclose simulating an interaction between nested instruments. As Anderson fails to disclose each and every feature recited in the rejected claims, withdrawal of the rejection is respectfully requested.

- In response to argument (1), as it has already been indicated in the above section (*Claim Rejections - 35 USC § 103*), Alexander's invention does teach or suggest Applicants claimed invention. For instance, with regard to the currently recited claimed limitation, "*controlling movements of a number of serially arranged and interconnected carriages corresponding to movements of said instruments in said interface unit*", the line, "Configuration 722 is substantially similar to configuration 724 except that configuration 722 includes **a plurality of carriage assemblies** and corresponding bellows, belts, pulleys and actuators **to measure** manipulation of **nested instruments**, such as the wire, catheter and sheath assembly. In particular, configuration 722 includes brackets 716, 718, 720 disposed toward the frame proximal end having corresponding pulleys 726, 728, 730 and actuators 736, 738, 740. A plurality of corresponding pulleys (partially shown) are disposed at the frame distal end. **Carriage assemblies** 706, 708, 710 are substantially similar to and **measure rotational and translational motion** of a **corresponding instrument** in substantially the same manner described above for carriage assembly 520." (col.22, lines 5-18), clearly

teaches or suggests that the plurality of carriage assemblies are interconnected one after the other (see FIG 16) and the computer measures the movements (rotational and translational motion) of the corresponding instruments. Therefore, as already established above, it would have been obvious to one of ordinary skill in the art at the time of this invention was made to modify the invention of Anderson in view of Alexander by incorporating a plurality of carriage assemblies in order to manipulate and control several nested instruments, such as wire, catheter and sheath assembly so that the user would learn the proper procedural steps to carry out a given medical procedure.

Thus, the Examiner concludes that Applicant's current claimed invention has already been taught or suggested by the prior art as discussed above.

Conclusion

Applicant's amendment necessitated the new grounds of rejection presented in this final office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filled within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bruk A. Gebremichael whose telephone number is (571) 270-3079. The examiner can normally be reached on Monday to Friday (7:30AM-5:00PM) ALT. Friday OFF.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, THAI XUAN can be reached on (571) 272-7147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bruk A Gebremichael/
Examiner, Art Unit 3715

/Cameron Saadat/
Primary Examiner, Art Unit 3715